MEMORANDUM OF UNDERSTANDING BETWEEN

THE UNITED STATES DEPARTMENT OF ENERGY

THE KOREAN MINISTRY OF SCIENCE AND TECHNOLOGY

PROVIDING FOR A COOPERATIVE LABORATORY RELATIONSHIP

AMONG

THE U.S. DEPARTMENT OF ENERGY PITTSBURGH ENERGY TECHNOLOGY CENTER

THE KOREA INSTITUTE OF ENERGY AND RESOURCES

THE KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY

AND

The U.S. Department of Energy (DOE), and the Korean Ministry of Science and Technology (MOST), hereinafter referred to as the Parties, recognizing their mutual interest in advancing the development of coal technology, agree that the Korea Institute of Energy and Resources (KIER), the Korea Advanced Institute of Science and Technology (KAIST) and the U.S. Department of Energy's Pittsburgh Energy Technology Center (PETC) shall undertake the activities set forth below. This Memorandum of Understanding is pursuant to the Agreement for Scientific and Technical Cooperation between the United States and Korea, signed at Seoul November 29, 1976.

1. Exchange of Information

PETC, with the concurrence of DOE, and KIER, KAIST agree to exchange on a reciprocal basis scientific and technical information and results and methods of research and development which they have the right to disclose in those areas of mutual interest to the two organizations. In no case will there be an exchange of proprietary information.

2. Interchange of Personnel

As mutually agreed among KIER, KAIST and PETC, KIER or KAIST may send one or more staff members per year to PETC for work experience in such fields as may be agreed to. Such assignments will normally be for periods of up to one year. The Korea Institute of Energy and Resources (KIER) or the Korea Advanced Institute of Science and Technology (KAIST) will be responsible for the salary, travel and living expenses of its staff members. The assignment must have the concurrence of the U.S. Department of Energy.

When appropriate, PETC staff members, with the concurrence of DOE, may visit KIER and KAIST. Living expenses for those visits will be borne by KIER or KAIST in a manner agreeable to PETC, DOE and the visiting scientist. The salary of PETC staff members visiting Korea will be paid by PETC.

Assignments or visits may be terminated by one of the Parties any time prior to expiration of the expected period at the discretion of one of the Parties.

Assignments to facilities in the United States shall be subject to an assignment of personnel agreement.

3. Advice and Consultation

Advice and consultation will be provided by PETC to KIER and KAIST as mutually agreed in the areas in which the necessary expert advice reside in PETC staff members. If the necessary expert advice is not available at PETC, DOE may attempt to identify other expert sources and may assist, if desired, in making arrangements for obtaining the desired advice and consultation from other U.S. Government laboratories. Advice and consultation may take the form of answers to inquiries by mail or may involve short visits to KIER and KAIST or PETC. If visits are necessary, costs will be handled according to Article 2.

4. Coordinators

To supervise the execution of this Memorandum of Understanding PETC, KIER and KAIST will name Coordinators through whom all requests and arrangements will be made. The Coordinators will meet alternately in the United States and in Korea at times deemed appropriate by them.

5. Rights to Inventions or Discoveries

A. With respect to any invention or discovery made or conceived in the course of or under this Memorandum

of Understanding:

- (1) If made or conceived by personnel of one Party
 (the Assigning Party) or its contractors while
 assigned to the other Party (Receiving Party) or
 its contractors, in connection with exchanges of
 scientists, engineers and other specialists:
 - (a) The Receiving Party will acquire all right, title and interest in and to any such invention or discovery in its own country and in third countries, subject to a non-exclusive irrevocable, royalty-free license in all such countries to the Assigning Party, its government, and its nationals designated by it, under any such invention or discovery and any patent application, patent or other protection relating thereto.
 - (b) The Assigning Party will acquire all right, title and interest in and to any such invention or discovery in its own country, subject to a non-exclusive, irrevocable royalty-free license to the Receiving Party, its Government, and its nationals designated by it, under any such invention or discovery and any patent application, patent or other protection relating thereto.

- (2) If made or conceived by a Party or its contractors as a direct result of employing information which has been communicated to it under this Memorandum of Understanding by one of the other Parties, or its contractors, or communicated during seminars or other joint meetings, the Party making the invention will acquire all right, title and interest in and to such invention or discovery in all countries, subject to a grant to the other Party, its Government, and its nationals designated by it of a royalty-free, non-exclusive, irrevocable license under any such invention or discovery and any patent application, patent or other protection relating thereto in all countries.
- B. The Parties will provide all necessary cooperation from its inventors to carry out the provisions of paragraphs (a) and (b) above.
- C. Each Party will assume the responsibility to pay awards or compensation required to be paid to its own nationals according to its own laws.
- D. Copyrights of either Party or of cooperating organizations and persons will be accorded treatment consistent with internationally recognized standards of protection.

- E. Any materials which may be subject to copyright developed in any cooperative activity may be copyrighted. A Party securing a copyright or rights thereto will grant a royalty-free license to the other Party to reproduce the copyrighted material.
- F. With regard to other specific forms of cooperation, as contemplated by paragraph 7, hereof, the Parties will provide for appropriate distribution of rights to inventions or discoveries resulting from such cooperation. In general, however, each Party should normally own the rights to such inventions or discoveries in its own country with a non-exclusive, irrevocable, royalty-free license to the other Party, its Government, and its nationals designated by it, and the rights to such inventions or discoveries in other countries will be agreed by the Parties on an equitable basis.

6. Liability

No warranty of any kind is made by PETC or DOE for any materials, information or services that may be furnished to KIER and KAIST under this Memorandum of Understanding. Compensation for damages incurred during the implementation of this Memorandum of Understanding will be in accordance with the applicable laws and regulations of the countries of the Parties. Cooperation under the Memorandum of Understanding shall be in accordance with the laws of

the respective countries and the regulations of the respective parties, and shall be subject to the appropriation of funds by the appropriate governmental authority where necessary.

7. Joint Projects

If it should be determined by the Parties that a joint project of any type should be undertaken, such a project would be the subject of a separate Memorandum of Understanding executed by DOE and MOST covering the detailed provisions for implementing that project including such matters as patents, exchange of equipment and information disclosure specific to that particular project.

8. Entry into Force and Termination

This Memorandum will enter into force on the later date of signature of a Party, will continue in force for five (5) years and may be amended or extended by mutual written agreement of the Parties. The Memorandum may be terminated at any time at the discretion of either Party upon ninety (90) days advance notification in writing by the Party seeking to terminate the Memorandum of Understanding. Such termination will be without prejudice to the rights which may have accrued under the Memorandum of Understanding to the Parties up to the date of such termination.

Done in duplicate

FOR THE KOREA MINISTRY OF	FOR THE UNITED STATES
SCIENCE AND TECHNOLOGY	DEPARTMENT OF ENERGY
BY 1 dys Osm Walm Vice President Korea Institute for Energy TITLE and Resources	BY Deputy Assistant Secretar for Fossil Energy
DATE Nov. 6, 1981	DATE Nov. 6, 1981